

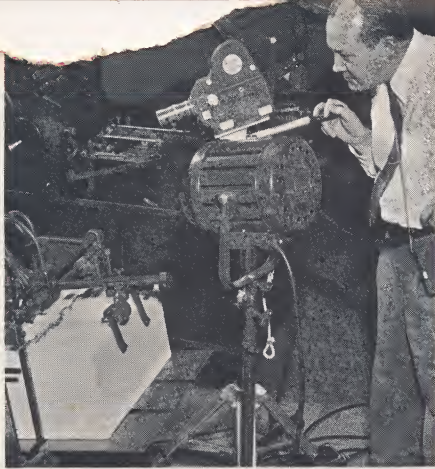


HIGH SPEED MOTION PICTURE CAMERAS

FAIRCHILD

Fairchild M.A.C. cameras can give you the what, where, how, why and when on a single film. M.A.C.s take 16mm motion pictures at speeds from 10 to 32,000 frames per second, depending on the model and motor used. Their films give you long minutes to study and appraise split-second events.

When important action is too fast for the mind and eye to record, the question of "what happened and why?" can probably be answered by a Fairchild Motion Analysis Camera.



Fairchild Motion Analysis Cameras Give You

the what, where, how, why and when on a single film. M.A.C.'s take 16mm motion pictures at speeds from 10 to 32,000 pictures per second, depending on the model and motor(s) used.

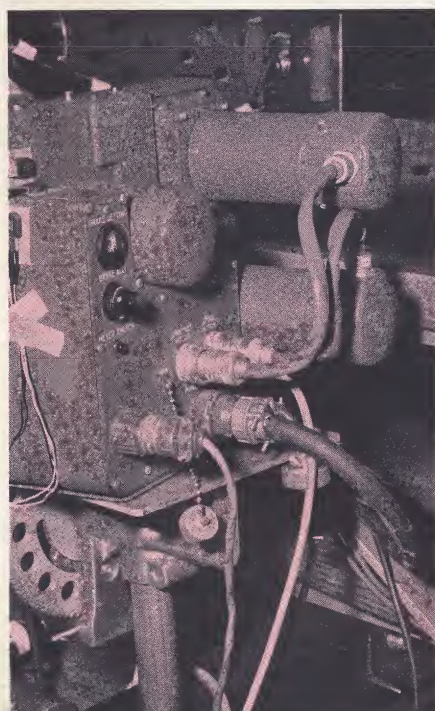


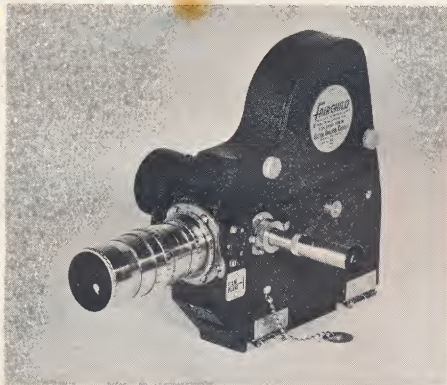
They give you excellent films of vibration effects, shock, flow and structural changes. Time saving applications of high speed photography are apparent in numerous areas of science and industry; in mechanical, electromechanical, chemical, hydraulic, magnetic, electronic and physiological problems.

The most significant feature of the Fairchild M.A.C. is its extreme flexibility. With interchangeable motors and lenses it can be converted within a few minutes for completely different applications. To insure optimum resolution, regardless of camera speed, each frame is perfectly synchronized to the rotating prism.

Fairchild high speed cameras are built

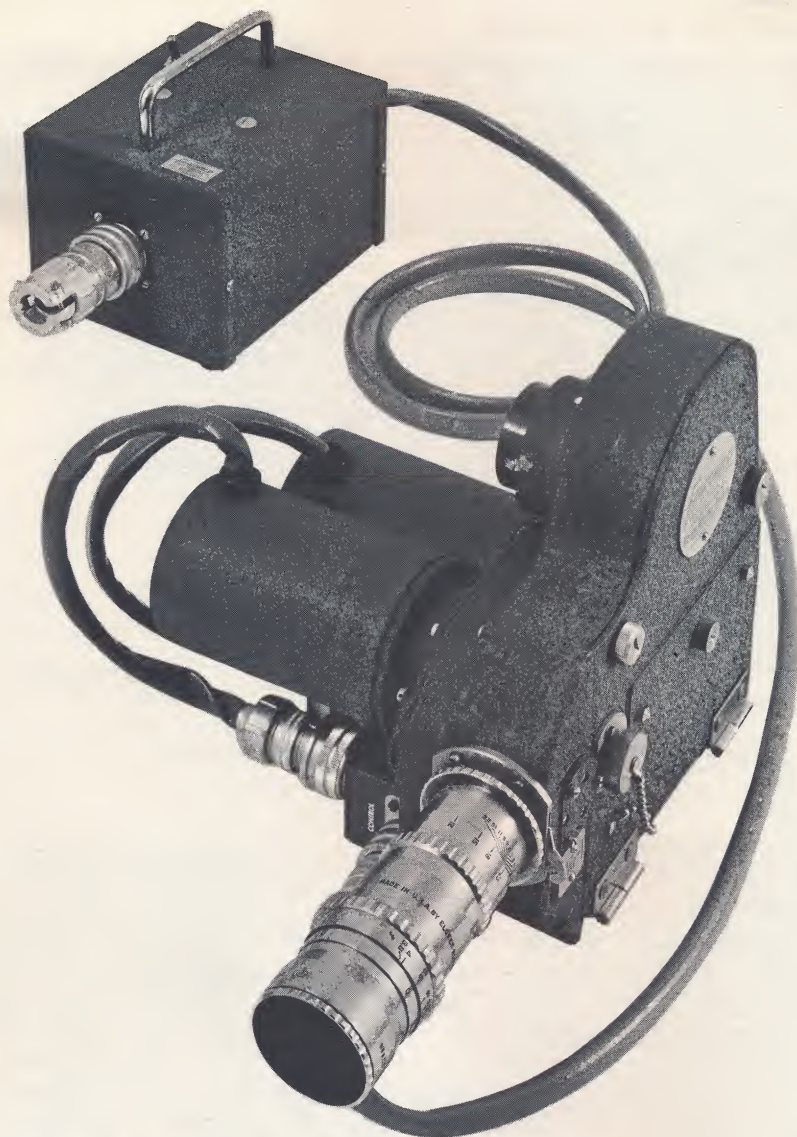
for accuracy, resolution, durability and simplicity of operation. The prism is made of specially selected, practically water white glass, which permits color photography without correction filters. The prism is securely mounted in a precision built housing, carefully aligned and pinned. The camera uses any standard 16mm film; it does not require specially perforated high speed motion picture film. Gears are individually matched and run-in for smoothest power transmission. An end-of-film switch in the camera automatically cuts power when the run is completed. It stops the take-up action and prevents film chipping. Film loading is direct and simple, and operation is reduced to a single on-off action in most applications.





The HS101 is a 16mm High Speed Motion Picture rotating prism camera for general field and laboratory use. It has a capacity of 100 feet, perforated film on daylight loading spools. Speed range is from 10 to 8,000 pps according to the motor(s) used. With the HS504 C1 motors (factory installed), speeds of from 3,000 to 8,000 pps can be achieved. Speeds are varied by changing applied voltage from 6 to 60V. The camera is equipped with two timing marker lamps. Open sight and boresight viewfinders are available as accessories. Three mounting holes for $\frac{3}{8}$ " x 16 thread screws, one for $\frac{1}{4}$ " x 20 thread.

DIMENSIONS: 8" long, 8½" high, 7½" wide. **WEIGHT:** 10 lbs.



THE HS108 — similar to the HS101. Utilizes an eight-sided rotating prism. Speeds of from 6,000 to 16,000 pps. User has the option of full 8 mm format or $\frac{1}{2}$ 16mm frame height and 16mm width merely by adjustment of the aperture mask.

THE HS116 — similar to both of the above models. Utilizes sixteen-sided rotating prism. Speeds of from 12,000 to 32,000 pps. Delivers format of: Frame Height: $\frac{1}{4}$ 16mm — Width: Full 16mm.

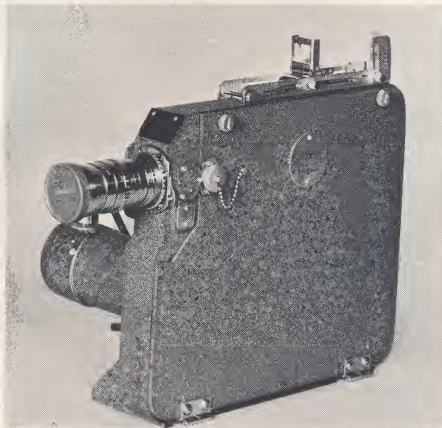
The following **EXTENSION TUBES** are available:

HS 1201	 $\frac{1}{2}$ " Extension tube
HS 1202	 1" Extension tube
HS 1203	 2" Extension tube
HS 1204	 4" Extension tube
HS 1205	 Extension tube adapter

Full line of bayonet mount lenses are available.

HS 1001F	 13mm f/1.5 focusing mount
HS 1025	 25mm f/2.0 focusing mount
HS 1002	 35mm f/2.0 focusing mount
HS 1050	 50mm f/2.0 focusing mount
HS 1003	 76mm f/1.9 focusing mount
HS 1004	 102mm f/2.7 focusing mount
HS 1005	 152mm f/4.0 focusing mount
HS 1292	 5mm f/1.5 very wide angle. Fixed focus-120
HS 1293	 8mm f/1.5 very wide angle. Fixed focus-90





THE HS401 is a 16mm High Speed Motion Picture rotating prism camera for general field and laboratory use. It has a capacity for 400 foot, (can use 100 and 200') perforated film on daylight loading spools. The camera utilizes a four-sided rotating prism, precision ground for optimum resolution. Speed range is from 10 to 8,000 pps according to the motor(s) used. With the HS504B1 motors, speeds of from 3,000 to 8,000 pps can be achieved. Speeds are varied by changing applied voltage from 6 to 60V. The camera is equipped with two timing marker lamps. Open sight and boresight viewfinders are available as accessories. Three mounting holes for $\frac{3}{8}$ " x 16 thread screws.

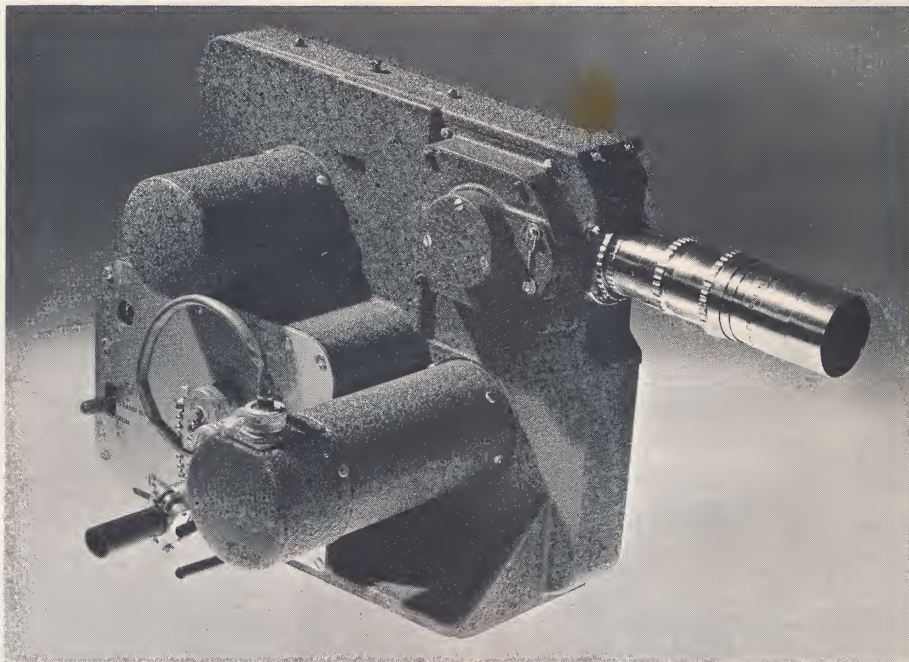
DIMENSIONS: 13" long, 13 $\frac{1}{4}$ " high, 9" wide. **WEIGHT:** 26 lbs.

THE HS408 — similar to the HS401. Utilizes an eight-sided rotating prism. Speeds of from 6,000 to 16,000 pps. User has option of full 8mm format or $\frac{1}{2}$ 16mm frame height and 16mm width, merely by adjustment of the aperture mask.

THE HS416 — similar to both of the above models. Utilizes sixteen-sided rotating

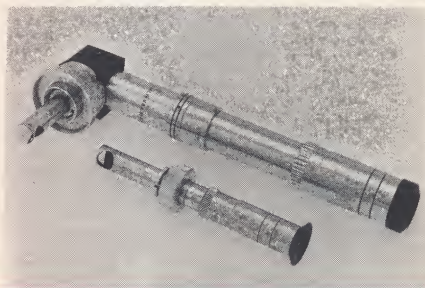
prism. Speeds of from 12,000 to 32,000 pps. Delivers format of: Frame Height: $\frac{1}{4}$ 16mm — Width: Full 16mm.

All 400' Fairchild cameras provide for start-stop operation at ALL SPEEDS. This is accomplished automatically by energizing the magnetic braking system, and by the simultaneous dynamic braking of the high speed motor.



BORESIGHT VIEWFINDER insures critical focus especially in extreme closeup photography. The following Boresights are available:

HS 1301 Boresight, straight
HS 1302 Boresight, right-angle

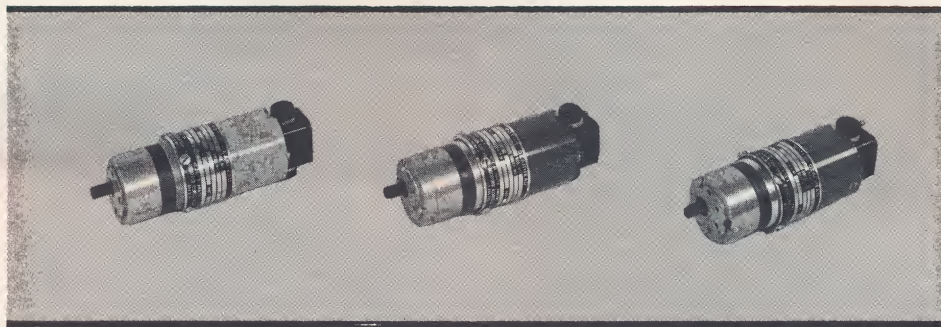


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The FAIRCHILD high speed motors are series wound, except for highest speed motors which are field wound. They are rugged and dependable. Selected for high starting torque, they rapidly reach high velocity. Four single motor setups are available, and motors can easily be interchanged within a few minutes. M.A.C. is powered from any d.c. source, rectified a-c or battery. Available motors, and their speed ranges are:

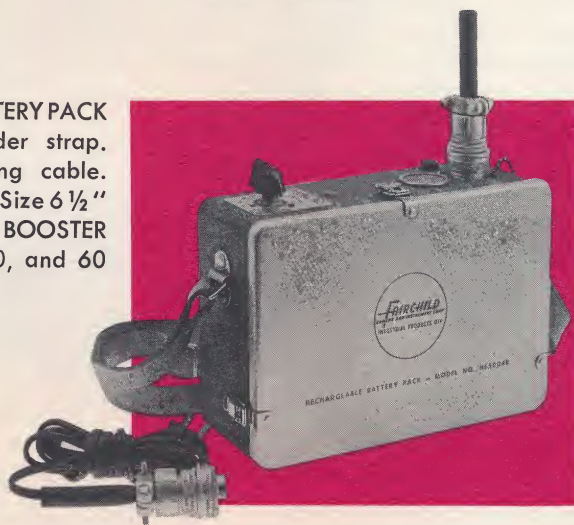


Motor No.	Camera Model					
	HS 401	HS 101	HS 108	HS 408	HS 116	HS 416
HS 511	10-100 pps	10-50 pps	—	—	—	—
HS 501	100-400 pps	50-200 pps	—	—	—	—
HS 502	400-2000 pps	200-2000 pps	—	—	—	—
HS 503	800-3000 pps	800-3000 pps	—	—	—	—
HS 504B1	3000-8000 pps	—	—	6000-16,000 pps	—	12,000-32,000 pps
HS 504C1	—	3000-8000 pps	6000-16,000 pps	—	12,000-32,000 pps	—

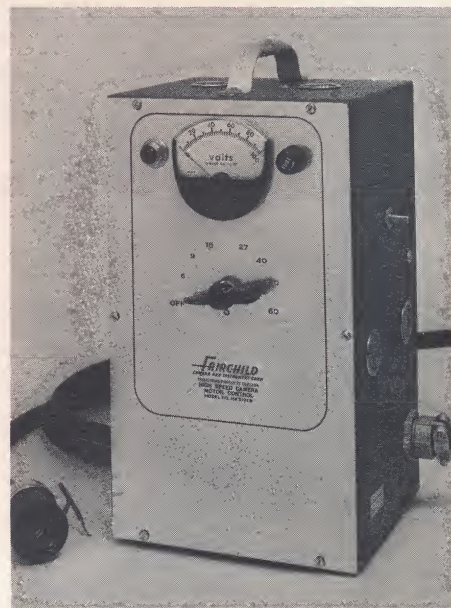


The HS 10600 TIMING LIGHT GENERATOR. The unit will fire up to four #51 or 51H or equivalent lamps at rates of 100 or 1,000 pps per second. Pulse duration is 30 microsec with accuracy of 0.1% at 1,000 cps. Output is 200V minimum. The HS 10600 can be operated on 110V. a.c. using its attached transformer, or direct from any 12V d.c. source. A single screw detaches the transformer for d.c. use. Size of the generator is 3 3/8" H by 6 3/8" L. Weight is 2 lbs. 6 oz. Transformer is 3" long and weighs 2 lbs. 11 ozs.

HS 5004B RECHARGEABLE BATTERY PACK in carrying case with shoulder strap. Built in charger with charging cable. Taps at 6, 12, 18, 24 and 30 V. Size 6 1/2" by 8 3/4" by 2 1/2". HS 5005 BOOSTER PACK provides taps of 40, 50, and 60 volts.



The HS 5101B FULL WAVE RECTIFIED POWER UNIT. Input is 115 volts, 60 cycles, a-c. Output at 6, 9, 18, 27, 40, 50, and 60 volts d-c. It has an output for 18V dc. for control of the HS 401 M.A.C. and the HS 504C1 motors. Weight: 22 lbs.

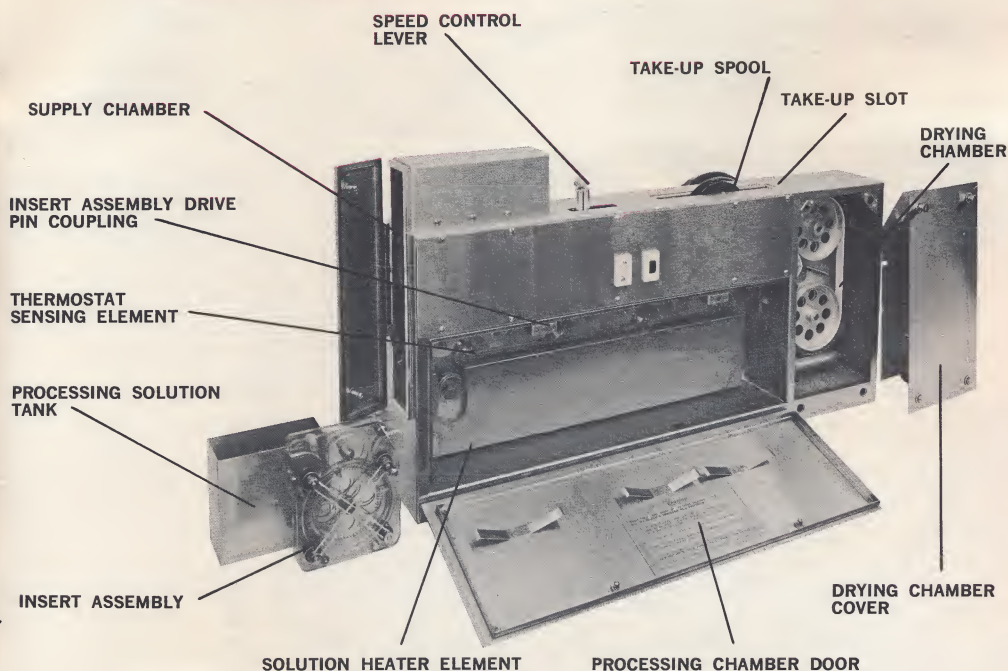


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FAIRCHILD "MINI-RAPID 16" AUTOMATIC PROCESSOR (Model F-316A)



One of the most important features of the "Mini-Rapid 16" is its leaderless delivery of processed film. You can look at the first few feet in a matter of minutes and adjust the developing time if necessitated by exposure error. Just change the Drive Speed for the best degree of development.

Size: 13" H, 13" D by 27" L

Weight: Approximately 65 lbs.

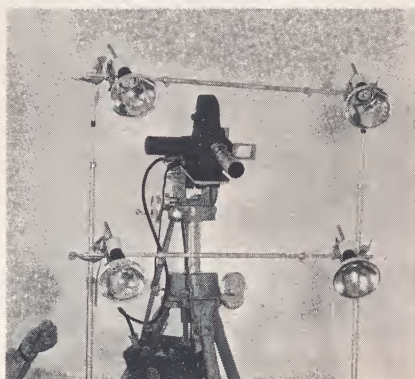
Processing Capacity: 2- to 400 feet

Processing Rate: dependent upon emulsion type. (Continuously variable from 1 foot/min to 6/feet/min)

Drying: Processed film is dried by warm air circulated at high velocity

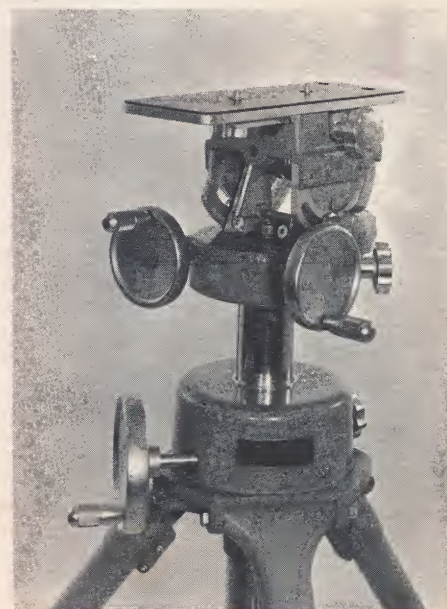
Power Requirements: 110-120 volts 60 cycle AC

Optional Features: Circulating water wash system at second water container.



HS 3201 EXPOSURE METER is a reflectance type designed especially for high speed photography. Calibrated for FAIRCHILD M.A.C.s it provides correct aperture setting for any picture taking rate according to film speed. 2° acceptance angle, gives pin point readings.

HS 3001 LIGHTING SYSTEM includes two light stands, four sockets and cables. 750 and 300 watt lamps are available.



HS 2511 HEAVY DUTY TRIPOD with geared head (for HS 100, HS 101, and HS 401 Cameras). Total weight is 27 lbs. It gives fast pan or tilt by spinning wheels, or "inch" camera accurately by slight turn. Camera plate is oversized for extra support.

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221 FAIRCHILD AVENUE, PLAINVIEW, N. Y.

AREA CODE 516 WELLS 8-9601

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A DIVISION OF FAIRCHILD CAMERA
AND INSTRUMENT CORPORATION

January 12, 1965

T. Nelson Sys. Consultant
Box 1546
Poughkeepsie, New York 12603

Dear Sir:

In response to your request we have enclosed descriptive literature and prices on our complete line of Motion Analysis equipment. Additionally, descriptive material on other products which undoubtedly will be of interest to you is enclosed for perusal.

As you are probably aware, high speed photography has, for years, held a notable place as a research tool; for studies of vibration, shock, acceleration and similar stresses on materials, components and products. More recently it has entered alien fields such as flow pattern, wave form and photo-elastic study. Now we are becoming aware of medical applications. Apparently there is no limit to the fields in which this technique can be applied, providing that the event to be recorded takes place within seconds and that those few seconds require time-expansion or magnification. This time-expansion on film can reveal an answer to a specific question or, at the very least, provide substantial contributory evidence that a particular condition exists.

Fairchild's High Speed Cameras are available in 100' and 400' models, in ranges from 10 pictures per second to 14,000 pictures per second. Should you have a specific application in mind, we will be pleased to help you determine the model which will serve you most effectively. Most models are available for delivery on two weeks notice.

We thank you for considering Fairchild in your requirements and look forward to serving you in the future.

Respectively,

FAIRCHILD CAMERA AND INSTRUMENT CORPORATION

Edward Currey

EDWARD CURREY
Sales Manager

Photographic Instrumentation

EC/rg
Encl.

FAIRCHILD

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A DIVISION OF FAIRCHILD CAMERA
AND INSTRUMENT CORPORATIONFAIRCHILD MOTION ANALYSIS CAMERA SYSTEM

HS 101	Motion Analysis Camera, Industrial Model (with single motor of your choice)	\$1,650.00
HS 0151	Motion Analysis Camera, Oscilloscopic Model (with single motor of your choice)	1,625.00
HS 401	Motion Analysis Camera, 400 ft. Model (with single motor of your choice)	3,000.00
HS 511 (purple)	Low Speed Motor (see brochure for range)	145.00
HS 501 (blue)	Low Speed Motor (see brochure for range)	145.00
HS 502 (green)	Medium Speed Motor (see brochure for range)	145.00
HS 503 (yellow)	High Speed Motor (see brochure for range)	145.00
HS 504-B1 (red)	Very High Speed Motor Kit (see brochure for range)	415.00
HS 504-C1 (red)	Very High Speed Motor Kit (see brochure for range)	964.50 650.00
HS 1001F	Lens, 13mm, f/1.5	225.00 **
HS 1025	Lens, 25mm, f/2.0	330.00 **
HS 1002	Lens, 35mm, f/2.0	275.00
HS 1050	Lens, 50mm, f/2.0	275.00
HS 1003	Lens, 76mm, f/1.9	225.00
HS 1004	Lens, 102mm, f/2.7	225.00
HS 1005	Lens, 152mm, f/4.0	260.00
HS 1201	1/2" Lens Extension Tube	17.50
HS 1202	1" Lens Extension Tube	17.50

HS 101-A2	Viewfinder (for HS 101 M.A.C.)	\$ 73.50
HS 100-A2	Viewfinder (for HS 401 M.A.C.)	71.50
HS 1203	2" Lens Extension Tube	20.00
HS 1204	4" Lens Extension Tube	24.00
HS 1205	Extension Tube Adapter	14.00
HS 1251	Extension Tube Set (consisting of one each HS 1201, HS 1202, HS 1203, and HS 1205)	87.50
HS 1292	Lens, 5mm, f/1.5, 120 degree angle of coverage	450.00 **
HS 1293	Lens, 8mm, f/1.5, 90 degree angle of coverage	450.00 **
HS 1301	Boresight Viewfinder, Straight	67.50
HS 1302	Boresight Viewfinder, Elbow	250.00
HS 1351	Fiducial Marker Lens (120mm)	675.00
HS 1401	N.D. Filter, 10% transmission (not for 25mm, 35mm, or wide angle lenses)	9.50
HS 1402	N.D. Filter, 1% transmission (not for 25mm, 35mm, or wide angle lenses)	9.50
HS 1403	N.D. Filter, 0.1% transmission (not for 25mm, 35mm, or wide angle lenses)	9.50
HS 1501	Clear Filter (not for 25mm, 35mm, or wide angle lenses)	3.50
HS 1551	Infra-red Filter (not for 25mm, 35mm, or wide angle lenses)	11.25
HS 2511	Heavy Duty Tripod with Geared Head (for HS100, HS101, and HS401 Cameras)	375.00
HS 3001	Light Stand Set	97.50
HS 3006	300 Watt Lamp	3.00
HS 3009	750 Watt Lamp	4.60
HS 3110	LD-3 Photoflash Lamp	2.35
HS 3201	Exposure Meter	179.50
HS 3301	Series Parallel Switch	15.00

HS 5004B	Rechargeable Battery Pack	\$ 300.00
HS-BEC	8 ft. Cable, with connectors, HS5004B to HS100 or HS101	21.60
HS 5005	Booster Rechargeable Battery Pack	295.00
HS 5101B	Rectifier	375.00
HS REC	8 ft. Cable, with connectors, HS5101B to HS101	22.20
HS RECH	8 ft. Cable, with connectors, HS5101B to HS101 Camera with HS504-C1 Kit	31.20
HS REC-401	8 ft. Cable, with connectors, HS5101B to HS401 Camera	32.00
HS CES	6 ft. Cable, with connectors, HS101 to HS5044 B	25.00
HS 6001	Heater Modification for HS101	82.50
HS 8001	Carrying Case for HS101	41.50
HS 8101	Carrying Case for HS100	47.50
HS 8401	Carrying Case for HS401	95.00
HS 9002	400 ft. Daylight Loading Spool	2.30
HS 10600	Timing Light Generator (miniaturized with transistors)	630.00
HS 11001	Instruction Manual	5.00

** Add 10% Federal Excise Tax

All prices subject to change without notice. All items f.o.b.,
Plainview, New York. Terms Net 30 days.

Effective 3/20/64

Model HS108 M.A.C. - for full-frame 8mm or half frame 16mm
format, for speeds up to 16,000 PPS, with
HS504-C1 high speed motor kit
Price each. \$3,580.00

Model HS116 M.A.C. - for one-quarter frame high 16mm format for
speeds up to 32,000 PPS, lens and HS504-C1
high speed motor kit
Price each 4,975.00

Model HS408 M.A.C. - (400 ft. version of HS108) with HS504-B1
high speed motor kit
Price Each 4,800.00

Model HS416 MAC - (400 ft. version of HS116) including HS504-
B1 high speed motor kit
Price each 7,005.00

Prices are F.O.B., Plainview, New York . . . terms Net 30 days.
Delivery 60 days on HS108 and HS408 . . . 90 days on HS116 and HS416

Prices in effect January 7, 1963
Subject to change without notice